

### **REMARKS**

Applicant submits these Remarks in reply to the Office Action mailed March 27, 2009 ("Office Action"). Claims 1-8, 14-21, and 27-34 are currently pending in the application, of which claims 1, 14, and 27 are independent. By this Amendment, Applicant has amended claim 1.

In the Office Action, the Examiner took the following actions:

(1) rejected claims 1-8 under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter; and

(2) rejected claims 1-8, 14-21, and 27-34 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Thompson, Paul; Psarftis, Harilaos; "Cyclic Transfer algorithms for multivehicle routing and scheduling problems" ("*Thompson*") in view of Hokey Min, "A personal computer assisted decision support system for private versus common carrier selection" ("*Min*").

Applicant respectfully traverses the Examiner's rejections as follows.

#### **I. 35 U.S.C. § 101**

The Office rejected claims 1-8 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Although Applicant maintains that the claims as filed recite statutory subject matter, Applicant has amended claim 1 in order to place this application in condition for allowance. Specifically, the method steps of amended claim 1 now recite "using the computer processor," and "storing the tour using the assigned loads on a memory coupled to the processor." No new matter has been added. As amended, the specific method steps of claim 1 are tied to a statutory class and cannot

be performed without the use of a particular apparatus. Consequently, Applicant submits that this claim, as amended, conforms with the recent Federal Circuit decision in *in re Bilski*, \_\_\_ F.3d \_\_\_, 2008 WL 4757110 (Fed. Cir. Oct. 29, 2008) (*en banc*). Claims 2-8 depend from claim 1 and by virtue of their dependence upon claim 1 and for the reasons set forth above, are also tied to a statutory class. Therefore, Applicant requests the withdrawal of the Section 101 rejection of claims 1-8.

## II. 35 U.S.C. § 103(a)

Applicant respectfully traverses the rejection of claims 1-8, 14-21, and 27-34 under 35 U.S.C. § 103(a) as being unpatentable over *Thompson* in view of *Min*. A *prima facie* case of obviousness has not been established with respect to these claims, because the combined teachings fail to disclose, teach, or suggest the invention as claimed. The Office Action also fails to clearly articulate why it would have been obvious to modify the deficient teachings cited.

"The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. . . . [R]ejections on obviousness cannot be sustained with mere conclusory statements." M.P.E.P. § 2142, 8th Ed., Rev. 6 (Sept. 2007) (internal citation and inner quotation omitted). "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art." M.P.E.P. § 2143.01(III) (emphasis in original). "In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the

claimed invention as a whole would have been obvious.” M.P.E.P. § 2141.02(I) (emphases in original).

“[T]he framework for objective analysis for determining obviousness under 35 U.S.C. § 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q 459 (1966). . . . The factual inquiries . . . [include determining the scope and content of the prior art and] . . . [a]scertaining the differences between the claimed invention and the prior art.” M.P.E.P. § 2141(II). “Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.” M.P.E.P. § 2141(III).

**A. The cited references do not teach “evaluating a fit of the first load data on the first segment and a fit of the second load data on the first segment [and] evaluating a fit of the first load data on the second segment and a fit of the second load data on the second segment;”**

The cited references, either alone or in combination, do not teach or suggest “evaluating a fit of the first load data on the first segment and a fit of the second load data on the first segment [and] evaluating a fit of the first load data on the second segment and a fit of the second load data on the second segment,” as recited in Applicant’s independent claims 1, 14, and 27. In rejecting claims 1, 14, and 27, the Office relies on *Thompson* for teaching “the cyclic transfer method evaluates the loads placed on both routes.” Office Action at 8. Applicant respectfully disagrees with this reading of *Thompson*.

As clearly shown in Figure 1, *Thompson* discloses an algorithm that analyzes a plurality of existing tours between set locations and then proposes a series of alternate set of tours that form a “feasible solution to a vehicle routing and scheduling problem.”

See *Thompson* at 936. For instance, before the algorithm is applied, tour  $I^3$ , shown in Figure 1 of *Thompson*, had three stops,  $C_1$ ,  $C_2$ , and  $C_3$ . After the algorithm is applied, tour  $I^3$  now travels between stops  $C_1$ ,  $B_1$ , and  $B_5$ . Essentially, the algorithm concluded that tour  $I^3$  and all other tours could be optimized by leaving stops  $C_2$ , and  $C_3$  for a different tour and adding stops  $B_1$ , and  $B_5$  to tour  $I^3$ . Moreover, the implementation of the algorithm deletes particular segments and introduces new segments for a tour in such an optimization. For instance, before applying the algorithm, there was a segment between  $B_1$  and  $B_2$  of tour  $I^2$ , but no segment between  $B_1$  and  $C_1$ . After the algorithm is implemented, there is no longer a segment between  $B_1$  and  $B_2$  in any tour, but there is a segment between  $B_1$  and  $C_1$  in tour  $I^3$ . Thus, while the Office contends that *Thompson* "evaluates the loads placed on both routes," it is clear that *Thompson* teaches generating new tours altogether separate and different from the existing tours. *Thompson* contemplates generating new tours and deleting existing tour segments, in contrast to "evaluating a fit of the first load data on the first segment and a fit of the second load data on the first segment [and] evaluating a fit of the first load data on the second segment and a fit of the second load data on the second segment" as claimed. Indeed, by deleting some tour segments, there can be no evaluation of either a first or second load data on the segment.

Consequently, *Thompson* fails to teach or suggest "evaluating a fit of the first load data on the first segment and a fit of the second load data on the first segment [and] evaluating a fit of the first load data on the second segment and a fit of the second load data on the second segment," as claimed. As a result, at least one recitation of independent claims 1, 14, and 27 is not disclosed, taught, or suggested by *Thompson*.

**B. The cited references do not teach “wherein evaluating the fit of the first load data further comprises: determining a common carrier cost for putting the first load on a common carrier; determining a dedicated cost for putting the first load on the first segment; and setting a savings criteria as the difference between the common carrier cost and the dedicated cost.”**

The cited references, either alone or in combination, do not teach or suggest “wherein evaluating the fit of the first load data further comprises: determining a common carrier cost for putting the first load on a common carrier; determining a dedicated cost for putting the first load on the first segment; and setting the savings criteria as the difference between the common carrier cost and the dedicated cost” as substantially recited in Applicant’s amended independent claims 1, 14, and 27. The Office correctly concludes that *Thompson* fails to teach this subject matter, but incorrectly cites *Min* for teaching this subject matter. Although *Min* generally teaches a technique of choosing between private and common carrier transportation, nothing in *Min* indicates that this analysis is performed on a segment-by-segment basis as claimed. Instead, *Min* appears to be limited to an analyzing a costs savings for a single tour without regard to evaluating and setting savings criteria at the segment level. See *Min* at 235-37, sections 4.2.1 and 4.2.2 (Comparing the costs of common carriage and private carriage shipping and concluding that “the continued use of the current common carriage option would bring the total estimated cost savings of approximately \$575,214 . . . in comparison to the private carrier option.”). Thus, none of the cited references teach the claimed subject matter.

Therefore, an additional recitation of independent claims 1, 14, and 27 is not disclosed, taught, or suggested by either *Thompson* or *Min*, either alone or in combination.

- C. **The cited references do not teach: “ranking, in a first list comprising available loads for the first segment, the relative fits of the first load data and the second load data against the first segment list; ranking in a second list comprising available loads for the second segment the relative fits of the first load data and the second load data against the second segment on a second segment list.”**

The cited references, either alone or in combination, do not teach or suggest “ranking, in a first list comprising available loads for the first segment, the relative fits of the first load data and the second load data against the first segment list; ranking in a second list comprising available loads for the second segment the relative fits of the first load data and the second load data against the second segment on a second segment list” as recited in Applicant’s independent claims 1, 14, and 27. In rejecting claims 1, 14, and 27, the Office asserts that *Thompson* suggests creating two lists, stating: “I and J are two lists where the cyclic transfers are made from one list to another (i.e. before and after the transfer).” Office Action at 8. Applicant respectfully disagrees with this reading of *Thompson* as it disregards the nature of the lists recited in claims 1, 14, and 27. As discussed in *Thompson*, “ $I = \{I^1, I^2, \dots, I^p\}$  and  $J = \{J^1, J^2, \dots, J^p\}$  represent a set of *p* routes before and after a cyclic transfer occurs . . . .” *Thompson* at 936, col. 1 (emphasis added). Thus, while, I and J of *Thompson* could be considered lists of all the segments in the different iterations of tours pre and post cyclic transfer, they are not lists “comprising available loads” for the first and second segments, as recited in the claims. Indeed, even if the individual  $I^p$  or  $J^p$  disclosed in *Thompson* is considered a list, such a

list would include segments for a specific tour, in contrast to lists of "available loads" for a first segment of a tour or second segment of a tour. *Thompson* is devoid of any suggestion, teaching or disclosure of the type of lists recited in claims 1, 14 or 27. Thus, an additional recitation of independent claims 1, 14, and 27 is not taught, disclosed, or suggested by either *Thompson* or *Min*, either alone or in combination.

**D. No *prima facie* case of obviousness**

For the above reasons, the Office Action fails to clearly articulate a reason why *Thompson* or *Min*, either alone or in combination, would have rendered the claimed invention obvious to one of ordinary skill in the art. Consequently, a *prima facie* case of obviousness has not been established.

Because no *prima facie* case exists, Applicant respectfully requests that the Examiner withdraw the rejections of amended independent claims 1, 14 and 27. Because dependent claims 2-8, 15-21, and 28-34 necessarily contain the recitations of one of the independent claims, Applicant also requests withdrawal of the rejections of the dependent claims for the same reasons, and allow pending claims 1-8, 14-21, and 27-34, as amended.

**III. Conclusion**

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims, 1-8, 14-21, and 27-34.

If the Examiner continues to dispute the patentability of the pending claims after considering the above, please call Applicant's undersigned representative, below.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

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By: \_\_\_\_\_



Matthew T. Nesbitt  
Reg. No. 57,734  
(404) 653-6561